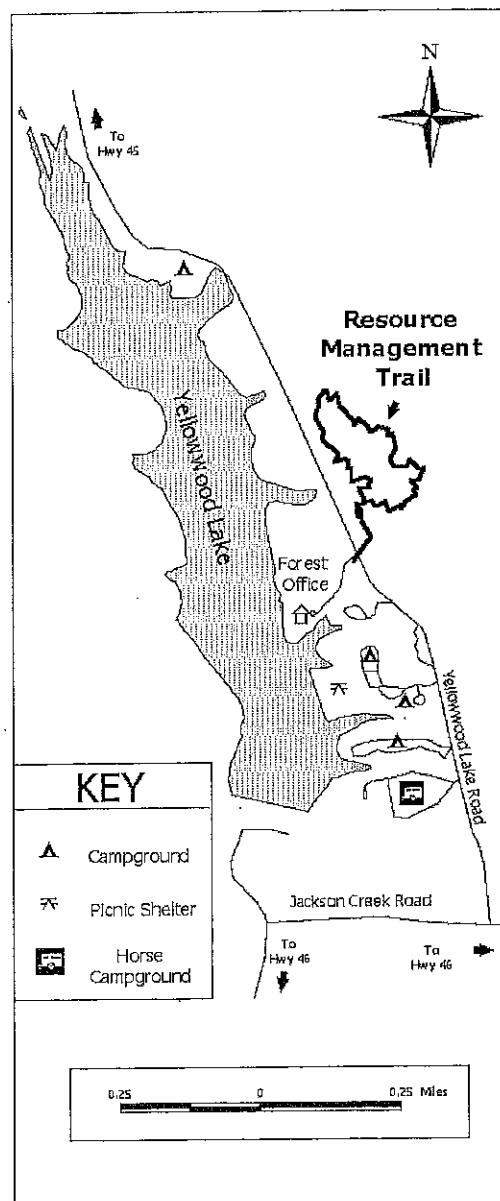


RESOURCE MANAGEMENT TRAIL MAP



Welcome to the Resource Management Trail, a 1.25 mile self-guided trail in Yellowwood State Forest. Indiana's State Forests are managed under a Multiple Use Management Philosophy. The forest is managed for a variety of uses: timber, recreation, historic resources, wildlife, lake and watershed protection, aesthetics, and special plant and animal communities. The trail will take you through two areas: one area marked for a timber harvest in 2007 and one area that was harvested in 1995. Along the trail, there are 20 stops to introduce you to the forest, to explain timber management, and to illustrate the multiple use management philosophy. The trail is marked with white diamonds.

Caution! Poison Ivy Alert

Poison ivy (*Rhus radicans*) grows along this trail, particularly in the pine stand near the trailhead. Contact with this plant can cause an itchy and sometimes painful skin rash.

Poison ivy has leaves in sets of three and may have white berries. At Yellowwood, the plant can be found either as a vine winding up trees or a low woody plant. An old rhyme provides wise poison ivy advice: "Shiny leaves of three, leave it be! Berries white, poisonous site!"

Please remember that the Resource Management Trail is for hiking only; use of horses, bicycles or motorized vehicles is prohibited.

OUR MISSION

The Indiana Department of Natural Resources' Division of Forestry promotes and practices good stewardship of natural, recreational and cultural resources on Indiana's public and private forest lands.

This stewardship produces continuing benefits, both tangible and intangible, for present and future generations.



The DNR prohibits discrimination on the basis of race, national origin, sex, or disability. If you believe that you have been discriminated against in any program, activity, or facility as described above, or if you desire further information, please write to:

Department of Natural Resources
Executive Office
402 West Washington St., Rm W256
Indianapolis, IN 46204

RESOURCE MANAGEMENT TRAIL

A 1.25 mile self-guided interpretive trail exploring the management of Yellowwood's natural resources.



772 Yellowwood Lake Road
Nashville, IN 47448
(812) 988-7945

1. Hints of History Imagine this spot with all the trees gone except for the large red elm behind the sign. Picture farm fields and a small log cabin with day lilies, daffodils, and yuccas. You now have an image of what this area probably looked like during the late 1800's. Settlers cleared the ridge tops and valleys for agriculture. Additional trees were removed from the hillsides to provide lumber and railroad ties for a growing population. By the early 1900's, settlers were deserting their farms due to crop failure. Although the houses are gone and the fields reforested, the forest still holds hints of its history. The yucca plants, daffodils, periwinkle, and day lilies suggest that this was a homesite. The red elm with its wide spreading branches indicates that once this area had full sun. The pine trees that surround you were planted to slow the soil erosion from the abandoned fields. Today we are trying to locate the old homesites to protect the cultural history of the forest.

2. Central Hardwood Forest You are now looking out over a second growth central hardwood forest. The central hardwood forest occupies the central portion of the eastern United States excluding the Appalachian Mountains. It is characterized by its wide variety of trees with oaks being the dominate trees. Yellowwood State Forest is considered a second growth forest because the land was cleared and has been reforested.

3. Meet the Trees Along the next section of trail, trees have been identified with signs to help you learn some of the tree species of the central hardwood forest. Information about the families of trees is provided below.
Ash: The most common ash in the area is the white ash. It has a hard wood used for handles, containers, and baseball bats.
Hickory: Shagbark hickory, pignut hickory, and bitternut hickory are found frequently in Yellowwood State Forest. Hickory is the favorite wood for tool handles. Hickory nuts are an important wildlife food.
Oak: White oak is Yellowwood's most valued timber tree. The wood is very strong and heavy. It is used to make fine furniture. The wood of the other oaks common in the area (red, black, scarlet, chestnut, and chinquipin) is similar to white oak although not as strong or as durable. Oaks are an important food source (acorns, buds) for wildlife.
Maple Sugar maple and red maple can be found along the trail. Maple is used for furniture and is a favorite for dance floors and bowling alleys. Maple syrup is made from the tree sap. Seeds, buds, and twigs are used as wildlife food.
Beech The American beech is easily identified by its smooth gray bark and papery feeling leaves. Beech is used for inexpensive furniture. Its triangular nut is eaten by wildlife. Large beeches often have cavities that make good wildlife dens.

PRE-HARVEST AREA The forest along this section of trail has been marked for a timber harvest in 2007.
4. Why Manage for Timber? Think of the forest surrounding you as a giant garden. In order to grow the best crop possible, a gardener will weed and thin. In a forest, a timber harvest is a powerful management tool that allows a forester to “weed and thin” the forest. The trees remaining after the harvest will have less competition and should grow faster. In addition, harvesting timber from the forest provides raw material to the forest product industry. Timber sales on Yellowwood provide revenue to the state and county government. Fifteen percent of timber sale revenue goes to the county to aid rural fire departments.

5. Inventory The first step in managing the forest is to do an inventory to gather information about the cultural resources, unique features (rock outcroppings, streams), special plant and animal habitats, and trees (size, density, health) in the area. The forester estimates the volume of wood in the trees. Volume is measured in board feet (BdFt). A board foot is a piece of wood 12 in x 12 in x 1 in. For example, the marked white oak behind the sign has an estimated volume of 550 BdFt (from what would be the stump to where the tree forks). The market value of the tree is \$300-\$550 (in 1998 dollars) depending on the quality of the wood.

6. Marking After doing an inventory, the forester determines whether or not to harvest the area. If there is going to be a harvest, the forester will select individual trees to sell. Each tree that is going to be harvested is marked with paint in three places. Find the three marks on the scarlet oak in front of you. The "stump mark" is used after a sale to verify that only marked trees were harvested. The meaning of the marks on the trees is as follows:

- Harvest Tree
- X Cull Tree Tree has no timber value but will be removed to benefit surrounding trees.
- ↗ Directional Falling The arrow is a message from the forester telling the logger which direction to fall the tree to protect the surrounding trees.
- / Partial Volume Tree Tree has timber value but it has a major defect. For example, the scarlet oak in front of you has a scar on the side of the tree that will reduce its timber value.

The next 3 stops will provide examples of how a forester selects which trees to harvest.
7. Thinning Before you is a stand of white oak. All the trees are of good quality, but there are too many in this area. The forester selected a few trees to be removed. The remaining trees will have less competition for sunlight and nutrients.

8. Salvage A forester may mark trees that are diseased or have been knocked down during a storm (like those behind the sign). If a tree is going to be salvaged, it should be done within a year of falling. If more than a year passes, the logs decay beyond what is useable for timber.

9. Mature Trees Another reason to select trees for harvest is to remove mature trees that will not remain healthy until the next harvest. The two scarlet oaks on either side of the trail are marked because they are mature. It is unlikely that they would survive until the harvest in 2027, so they will be removed in the 2007 harvest.

10. Natural Mortality Throughout the forest, trees die naturally. These trees will slowly decay and return nutrients to the soil.

11. Management by not Selecting Just because an area is included within the boundaries of a timber harvest, does not mean that trees will be marked for a harvest. If the stand is in good condition, no trees will be marked.

POST-HARVEST AREA The forest along this section of the trail was harvested in 1995.
12. Partial Volume Stump The hickory stump before you is an example of what the inside of a partial volume tree (●/) looks like. The loggers cut the tree, removed the section with the defects, and then took the remaining log. Notice the missing distance from the stump to the top.

13. Regeneration Opening You are standing on the edge of a regeneration opening. In areas of the forest where everything is mature or of poor quality, a regeneration opening is created to restart the forest. Some of the most important timber species trees (oak, hickory, tuliptree, cherry) are shade intolerant. Shade intolerant species require a disturbance that opens up the forest canopy and allows more light to reach the forest floor. This opening was created in 1997 and is approximately 0.25 acres in size. Regeneration openings are typically less than an acre in size. The openings make good habitat for wildlife species such as deer, rabbits, and grouse.

14. Regeneration Take a look around. How many different species of trees can you find growing in the regeneration opening? (See next column for the number of species we counted) Regeneration happens by two methods within the opening. The first method is by stump sprouting. The small chestnut oak near the sign was cut when the regeneration opening was created. New shoots are sent up from the root system of the cut tree. The second method is through germination of seeds stored in the forest soil.

(16 species: white oak, chestnut oak, red oak, black cherry, white ash, American beech, tuliptree, red maple, sugar maple, sassafras, large toothed aspen, shagbark hickory, flowering dogwood, sycamore, smooth sumac, winged sumac)

15. Wildlife Tree I The large beech trees have no timber value and could have been removed as part of the regeneration opening. The trees were left for species diversity and wildlife. Cavities in the trees provide good nesting and den sites. In addition, the beech trees provide a wildlife food source (buds, nuts, sap, twigs).

16. Tree Tops A hickory top is lying down hill. After a timber sale, either the area will be opened up to the public for firewood cutting or the tops are left to decay and return to the soil.

17. Tree Removal After the trees are cut, they are moved to an area called a log yard where they are loaded on to trucks and hauled to sawmills. The logs are moved from the forest to the log yard with a machine called a skidder. You are standing on an old skid trail. The log yard for this sale was located at the top of the hill. To protect the lake, the logs were taken to the top of the hill even though the road can be seen from here. By maintaining a buffer between the harvest area and the lake, the chances that soil disturbed while harvesting will erode into the lake are reduced.

RETURN TO PRE-HARVEST AREA
18. Visual Enhancement Area (VEA) In the forest from the sign to the road, minimal management is done. The area is left to provide a pleasant view to people passing on Yellowwood Road.

19. Wildlife Tree II This dead standing tree is called a snag. Snags are important to forest wildlife. The tree provides a perch for birds. The decaying wood is home to insects which in turn provide food for insect eating bird such as woodpeckers. As the bark peels away from tree, it provides shelter for bats and insects.

20. Riparian and Other Special Areas Areas along streams, "riparian areas", are given extra protection. In addition, places like the small rock outcrop across the stream are also protected because they provide unique habitat.

Thank you for hiking the Resource Management Trail. If you have comments or questions about forest management at Yellowwood or are interested in arranging a guided group tour, please stop in the forest office.